ISTAR
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The Need for a Capability approach

Commodore Peter Eberle Royal Navy
RUSI
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Abstract

Subject Terms

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ISTAR & the Capability Approach

- **Why ?**
  - The ISTAR mission
  - The ISTAR problem
  - Current ISTAR characteristics
- **How?**
  - The capability approach
  - The role of technology

The Mission

(From an Equipment Capability Perspective)

To deliver a UK equipment capability for the provision of precise and timely information for the decision maker and warfighter.

The Problem

- Increasing ISTAR demands at all levels
- Increasing tempo and size of areas of interest
- Risk of collateral damage risk and ensuing constraints
- Time critical targets
- Enemy exploitation of ROE constrained operations
- Limited budgets

Characteristics of Today's ISTAR

- **Operations**
  - Assets independently tasked
  - ISTAR planning 'stovepiped' into specialties
  - Observations not cross-cued
  - Dissemination methods uncoordinated
- **But these are not predominantly equipment issues**
- **So how can technology play a part - what can it offer ?**

Co-ordinating Capability

- Managing a situation where an enabling capability must be integrated as common across a large number of platforms to:
  - Maximise value for money in supplying the enabling capability
  - Maximise both intra- and inter-capability BoI opportunities
  - Minimise proliferation of solutions for a single capability
  - Ensure integration of new solutions across UK forces and lines of development to achieve In Service Date

The Role of Technology

- **To support the rolling out and maintenance of capability (including equipment & systems)**
  - Improvements in sensor performance do not necessarily translate into significant improvement in combat benefit
  - Assessing benefit vs cost
- **Benefits through**
  - Fusion of disparate sensor outputs
  - Improved processing
  - Integration of legacy and planned systems
  - Innovative concepts of use

Implementing/Applying Technology

- Technology development through corporate research
- Applied research targeted at capability gaps & shortfalls as defined by gap analysis
- Limited resource targeted at specific areas requiring direct technical advantage
- Pulling through technology research to assist in addressing gaps
- Development of COTS technologies for a defence application
- Studies, operational analysis and concept development

Applied Technology Examples

- **Technology work:**
  - Small satellite technologies and utility
  - Radar pod for tactical reconnaissance
  - Novel UAV control concept
  - EW Integration
- **Concepts and Integration:**
  - Capability Requirements Documents
  - Architecture development
  - Ground station requirements specifications for interoperability
  - Urban & Semi-Urban operations

The Capability Approach

- Effects and outcomes - not solutions
- ‘to enable the user to deliver …’
- For research as well as systems

The Goal

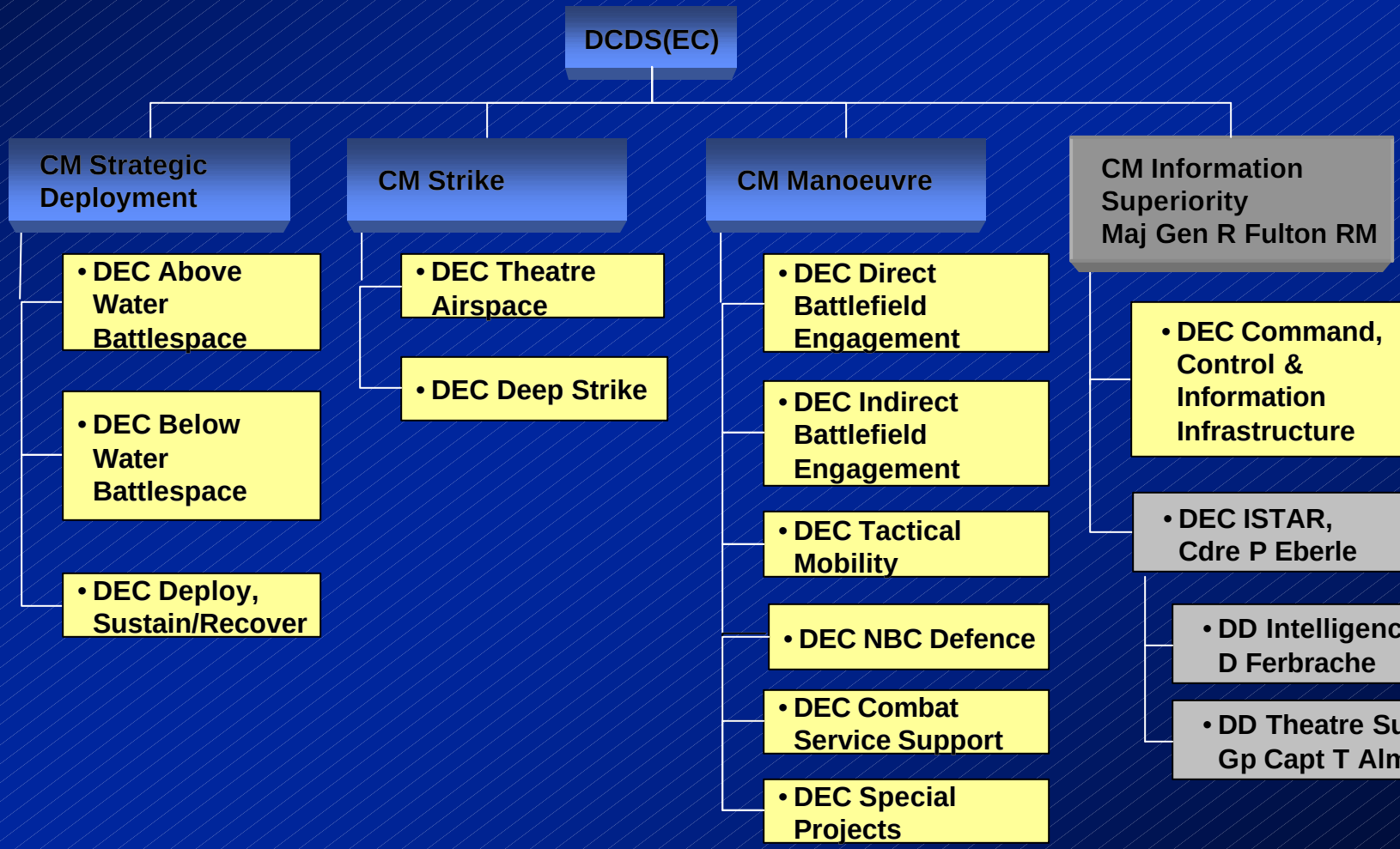
- Integrated ISTAR operations
- Not achievable just through equipment and underpinning technology research
- Other lines of development may well be more significant in achieving greater effectiveness

Summary

- Demand for information increasing
- ISTAR targets more demanding - timeliness now the biggest driver
- Current operations have grown organically and are not optimised for overall effectiveness
- Research offers advantages as much through utilisation strategies as through direct sensor improvement
- Capability approach is holistic

Backup slides follow

Organisation of Equipment Capability Area



Core DEC Requirements Flow